

Davies, Irene L SPK

From: Ganzfried, Ronald S SPK
Sent: Friday, February 10, 2006 4:57 PM
To: 'Knittweis, Gwen'
Subject: RE: Cost Estimate for McCormack-Williamson Tract Flood Control and Ecosystem Restoration Improvements

Gwen: Thank you very much. We appreciate the info and look forward to refinements in the future.

From: Knittweis, Gwen [mailto:gwenk@water.ca.gov]
Sent: Friday, February 10, 2006 4:32 PM
To: Ganzfried, Ronald S SPK
Subject: Cost Estimate for McCormack-Williamson Tract Flood Control and Ecosystem Restoration Improvements

Ron,
RD 2110
 The following is the rough cost estimate information for the "McCormack-Williamson Tract Flood Control and Ecosystem Restoration Improvements." Although the cost estimates are rough, we recently issued a consultant scope of work for more detailed cost estimates which should be available this summer (after release of the North Delta Flood Control and Ecosystem Restoration Public Draft EIR). I will be happy to provide updated information as it develops.
 Thanks. Gwen

Estimated Total Project Construction Cost:

\$14.5 - \$19.5 million

Project Elements:

- Degrade McCormack-Williamson Tract East Levee to Function as a Weir- \$5-7 million.
- Degrade McCormack-Williamson Tract Southwest Levee to Function as a Weir- \$1 million.
- Reinforce Dead Horse Island East Levee- \$1 million
- Modify Downstream Levees to Accommodate Increased Flows- \$2-4 million. (A portion of this work may be funded in part by a related proposal recently submitted for Tyler Island levee improvements).
- Construct Transmission Tower Protective Levee and Access Road- \$2 million.
- Enhance Interior Levee Slope Habitat- \$2-3 million.
- Other Necessary Improvements - \$1.5 million. (A portion of this work may be funded in part by a related proposal recently submitted for improvements on Grizzly Slough, which provides borrow for McCormack-Williamson elements while creating quality habitat).

DEPARTMENT OF WATER RESOURCES

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RD 2110

✓ DWR
TNC

January 31, 2006

U.S. Army Engineer District, Sacramento
Planning Division
1325 J Street
Sacramento, CA 95814
Attn: Ron Ganzfried

Dear Mr. Ganzfried:

The attached Proposed Initial Project information is submitted on behalf of the Department of Water Resources (DWR) and The Nature Conservancy (TNC) in response to your request for potential initial projects for levee system improvements in the Sacramento-San Joaquin Delta.

The Project information outlines improvements on and in the vicinity of McCormack-Williamson Tract which is currently owned by the Nature Conservancy. These improvements will provide near-term incremental flood control and ecosystem restoration benefits to the North Delta area consistent with the broader North Delta Flood Control and Ecosystem Restoration Project. An EIR for the North Delta Flood Control and Ecosystem Restoration Project is currently being prepared and an Administrative Draft is expected to be available in early spring 2006.

McCormack-Williamson Tract is key to North Delta area flood dynamics. The Tract levees are constrained in height by legal agreement and normally flood in high water events. A particular phenomenon associated with levee failure on McCormack-Williamson Tract is the "surge effect" created by the sudden rush of water over the island when the levees breach or are overtopped. The surge threatens adjacent levees and local marinas. The proposed improvements will allow flood waters to be more gradually metered through the Tract, reducing this "surge", while providing ecosystem habitat. The project is well-supported by area landowners who have been affected by the catastrophic nature of flooding on McCormack-Williamson for years.

McCormack-Williamson Tract was purchased with CALFED grant funds by TNC for flood control and ecosystem restoration, and we are preparing an EIR for implementation. Because the proposed improvements on the Tract will show how to open an island up to flooding in a controlled manner while reaping ecosystem restoration benefits, the project also holds great promise as a Delta Risk Management Strategy pilot project, leading the way for potential future conversion of islands that cannot be economically maintained.

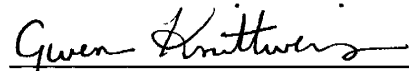
U.S. Army Engineer District, Sacramento
January 31, 2006
Page 2

We are expecting other grant proposals to be submitted to your program that include actions in the adjacent Grizzly Slough area and on Tyler Island levees. These actions will compliment the actions proposed herein since Tyler Island levee improvements will address needed levee modifications to offset potential hydraulic impacts of McCormack-Williamson Tract improvements and Grizzly Slough property restoration actions may provide needed borrow for McCormack-Williamson improvements.

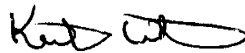
DWR and TNC are interested in a partnership with USACE for project design and implementation, depending on the ultimate terms of any necessary agreements and the project budget. DWR and TNC are working with other CALFED Agencies to secure a long-term owner for the property who will assume O & M responsibilities. We are confident you will find this project satisfies the goals of your program. Thank you.

California State
Department of Water Resources

The Nature Conservancy



Gwen Knittweis, Senior Engineer
Delta Suisun Marsh Office
Department of Water Resources



Keith Whitener
Cosumnes Project Director
The Nature Conservancy

Proposed Initial Project information for “McCormack-Williamson Tract Flood Control and Ecosystem Restoration Improvements”

1/31/2006

Name and Purpose of Potential Initial Project:

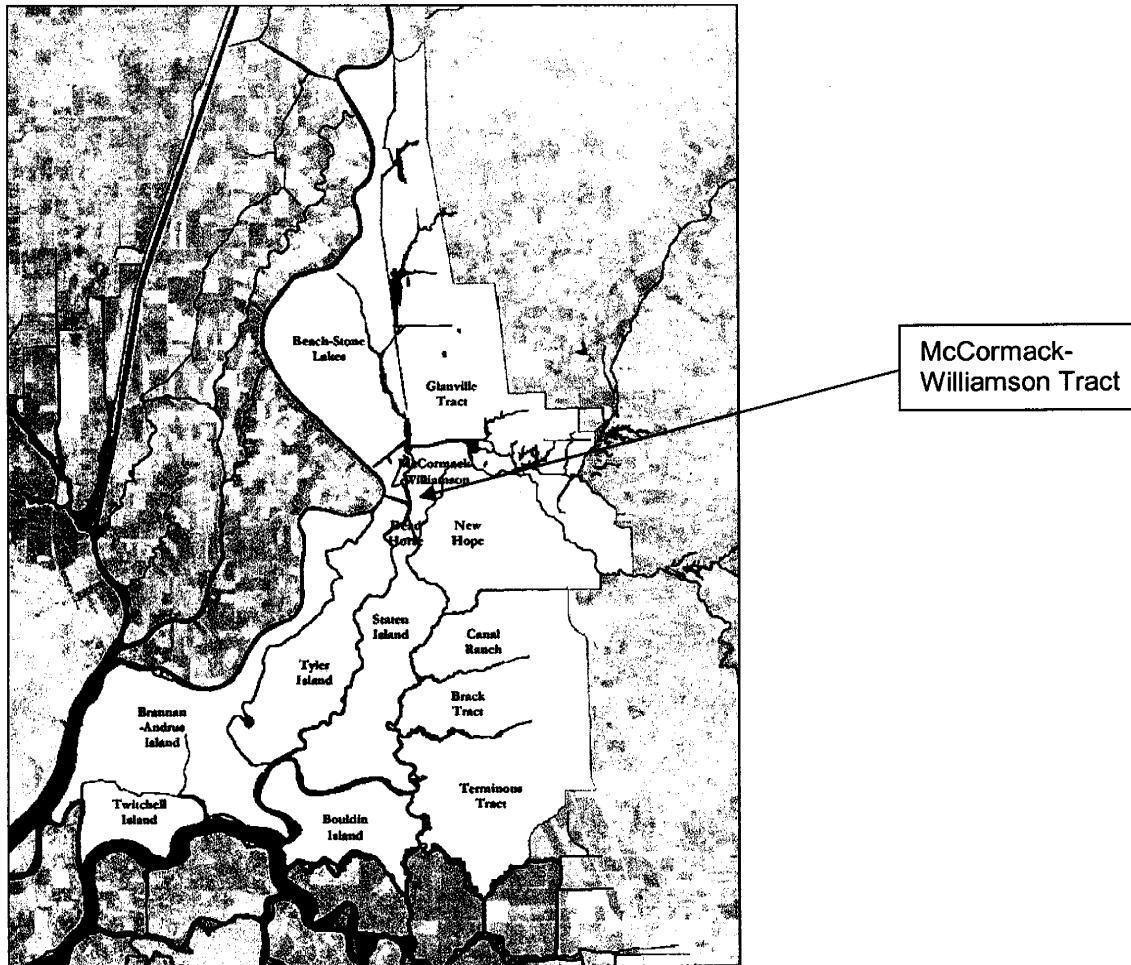
RD 2110

The Project is “McCormack- Williamson Tract Flood Control and Ecosystem Restoration Improvements”. The purpose of the Project is to implement flood control improvements in a manner that benefits aquatic and terrestrial habitats, species, and ecological processes. The Project includes the Group 1 actions that will be presented and analyzed in the broader North Delta Flood Control and Ecosystem EIR. These Group 1 actions on and in the vicinity of McCormack-Williamson Tract will provide near-term incremental flood control and ecosystem restoration benefits to the North Delta area.

Because McCormack-Williamson Tract levees are constrained in height by legal agreement and normally flood in high water events, it is only a matter of time before the Tract floods again. If the Tract floods again before the proposed improvements have been made, damage to area property will occur and a unique opportunity for creating critical habitat will be lost; the cost of reclaiming the Tract may be prohibitive and the conditions created by uncontrolled flooding will not be conducive to quality habitat. The project is well-supported by area landowners who have been affected by the catastrophic nature of flooding on McCormack-Williamson for years.

Location:

The Project study area for the North Delta Flood Control and Ecosystem Restoration EIR is approximately 197 square miles and is shown on Page 2. The project “McCormack- Williamson Tract Flood Control and Ecosystem Restoration Improvements”, proposed as an initial project will occur on and in the vicinity of McCormack-Williamson Tract which appears slightly North of the center of the study area shown on Page 2.



Project Area Problems:

Flood control improvements are needed to reduce damage to land uses, infrastructure, and the Bay-Delta ecosystem resulting from overflows caused by insufficient channel capacities and catastrophic levee failures within the Project study area. The North Delta Flood Control and Ecosystem Restoration Project would address the need for flood control solutions that are integrated with ecosystem improvements. The "McCormack-Williamson Tract Flood Control and Ecosystem Restoration Improvements" proposed herein would provide near-term flood control and ecosystem restoration improvements consistent with the broader North Delta Flood Control and Ecosystem Restoration Project. The existing and historic conditions that warrant flood control and ecosystem quality improvements in the North Delta area are described below.

Flood Control

The Mokelumne and Cosumnes Rivers and the Morrison Creek stream group do not currently have sufficient channel capacity to safely convey peak historical flows from Sierra Nevada watersheds, such as occurred in the 1986 and 1997 flood events, through the North Delta to the San Joaquin River. Current channel capacities for the North and South Forks of the Mokelumne River are approximately 40,000 cubic feet per

second (cfs). By comparison, the combined channel capacity required to safely convey flows from a 100-year flood event has been existed at 90,000 cfs. During peak flows, water from the Mokelumne River backs up into a broad floodplain north of New Hope Tract, and the limited capacity further causes water to back up Snodgrass Slough to the north towards Lambert Road.

The lack of channel capacity, combined with other constrictions in vulnerable areas (e.g., bridge abutments) and an increase in sedimentation levels, make a number of areas in the North Delta vulnerable to flooding. Since 1955, several areas have been flooded after levees were either breached or overtopped, including Glanville Tract, McCormack-Williamson Tract, Dead Horse Island, Tyler Island, New Hope Tract, and Canal Ranch Tract. The potential for flooding also threatens important public facilities and institutions in the North Delta area, including Interstate 5 (I-5), the Union Pacific Railroad line, and the Rio Cosumnes Correctional Center.

The North Delta is also susceptible to levee failure during peak flows. Levees on McCormack-Williamson Tract and Dead Horse Island have frequently been overtopped during large floods, and many other levees have been subject to structural failure during past storm events. Failure of Delta levees can:

- result in flooding of Delta communities, farmland, habitat, and key roads and highways;
- expose adjacent islands to increased wave action, increased seepage, and possible levee erosion;
- affect water supply distribution systems; and
- affect flow patterns, potentially resulting in adverse impacts to water quality, if levee breach is not repaired.

A particular phenomenon associated with levee failure on McCormack-Williamson Tract is the “surge effect” created by the sudden rush of water over the island when the levee breaches or is overtopped. The force of the water from the surge effect rushes across the island from the northeast to the southwest, ultimately reaching New Hope and Wimpy’s marinas. At this point, the surge can displace mobile homes, damage infrastructure, and break boats loose from their moorings. As evidenced in past flood events, flood damage can be considerable when this occurs, as the loosed boats can become lodged against the New Hope Bridge, compounding the channel constriction with other debris. The channel constriction causes water surface elevation to rise and create a back-up condition upstream and unstable conditions on adjacent areas. The overall result has historically constituted substantial property damage and threat to human safety, both in the immediate area and potentially on adjacent islands.

Ecosystem Restoration

Degradation and the loss of habitats that support various life stages of aquatic and terrestrial species are a primary concern in the North Delta. These habitat changes come from many causes, including sedimentation from hydraulic mining, habitat conversion, dredging and water diversions, and the introduction of exotic species.

Thirty years of 19th century hydraulic mining in the river drainages along the eastern edge of the Central Valley have increased sedimentation levels in downstream watercourses, degrading valuable aquatic habitat. Many of the seasonally inundated lands in the Bay-Delta system that historically provided habitat to a variety of bird and animal species have been converted to agricultural, industrial, and urban uses. Levees constructed to protect lands in the Delta from inundation eliminated fish access to shallow overflow areas, and dredging to construct levees eliminated the tule bed habitat along the river channels. Upstream water development and use, depletion of natural flows by local diverters, and the export of water from the Bay-Delta system have altered hydrodynamic processes. This has resulted in changed seasonal patterns of inflow, reduced Delta outflow, and diminished the natural variability of flows into and through the Bay-Delta system. Those facilities constructed to support water diversions may result in straying or direct losses of fish and can increase exposure of juvenile fish to predation.

Project Opportunities:

The McCormack-Williamson Tract Flood Control and Ecosystem Restoration Improvements present unique opportunities for synergy in achieving flood control and ecosystem restoration goals. McCormack-Williamson Tract plays a key role in North Delta hydraulics. The property typically floods by overtopping at the Northeast end during large flood events and then breaches downstream in an uncontrolled fashion, causing stress on and failure of adjacent levees and local marina moorings. A North Delta flood solution will allow passing of flood flows through McCormack-Williamson in a way that minimizes flood impacts to the system. Because McCormack-Williamson Tract's topography varies from roughly minus four feet to plus five feet above sea-level, the Tract provides an ideal landscape gradient for a continuum of habitat types as part of the flood control solution.

McCormack-Williamson Tract is owned by The Nature Conservancy (TNC) who is an active participant in the North Delta Improvements planning process. TNC has partnered with UC Davis and DWR North Delta staff to explore integrated flood control and ecosystem restoration on McCormack-Williamson Tract. All the alternatives for McCormack-Williamson flood control and ecosystem restoration have been vetted through a scientific peer process review to include consideration of scientific uncertainties that may affect project planning and design.

Project Description:

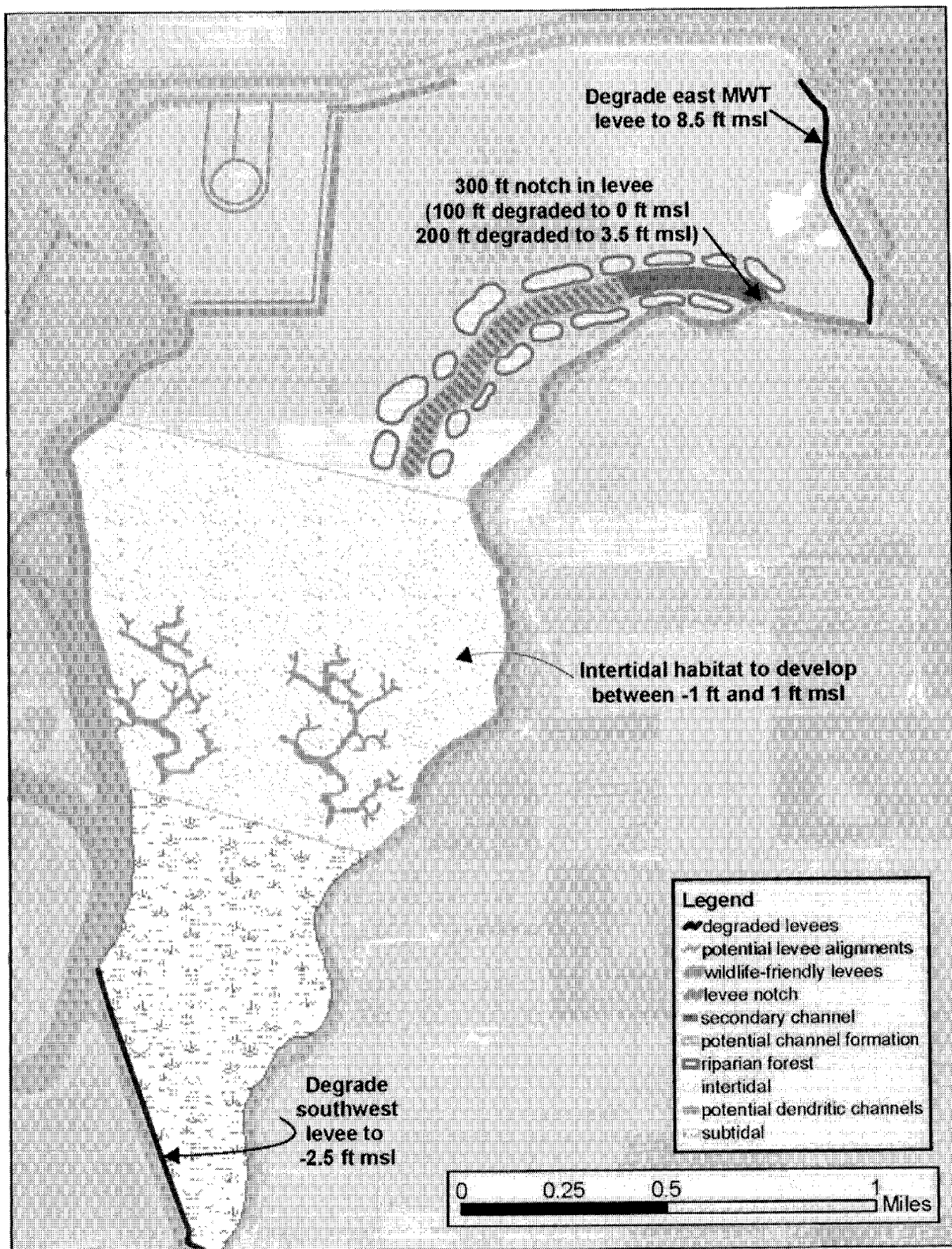
The project would include modifications on McCormack-Williamson Tract according to one of three alternatives to be chosen through the broader North Delta Flood Control and Ecosystem Restoration Project EIR process currently proceeding. The alternatives will address the "surge" through McCormack-Williamson Tract and provide ecosystem benefits. These alternatives are identified as Group 1 actions in the broader North Delta Flood Control and Ecosystem Restoration Project and will provide near-term incremental benefits to the area.

Alternative 1-A: Fluvial Process Optimization

This alternative facilitates controlled flow-through of McCormack-Williamson Tract during high stage combined with a scientific pilot action of breaching a levee to optimize fluvial processes. The southernmost portion of the tract would be open to tidal action. Alternative 1-A is shown conceptually on Page 6 and includes the following components:

- Degrade McCormack-Williamson Tract East Levee to Function as a Weir
- Degrade McCormack-Williamson Tract Southwest Levee to Function as a Weir
- Reinforce Dead Horse Island East Levee
- Modify Downstream Levees to Accommodate Increased Flows
- Construct Transmission Tower Protective Levee and Access Road
- Enhance Interior Levee Slope Habitat
- Breach Mokelumne River Levee
- Restore Agricultural Land to Habitat
- Retrofit Existing Agricultural Siphon
- Allow Non-Motorized Boating on Southeastern McCormack-Williamson Tract (optional)

A more detailed description of this alternative will be presented in the North Delta Flood Control and Ecosystem Restoration Project EIR.



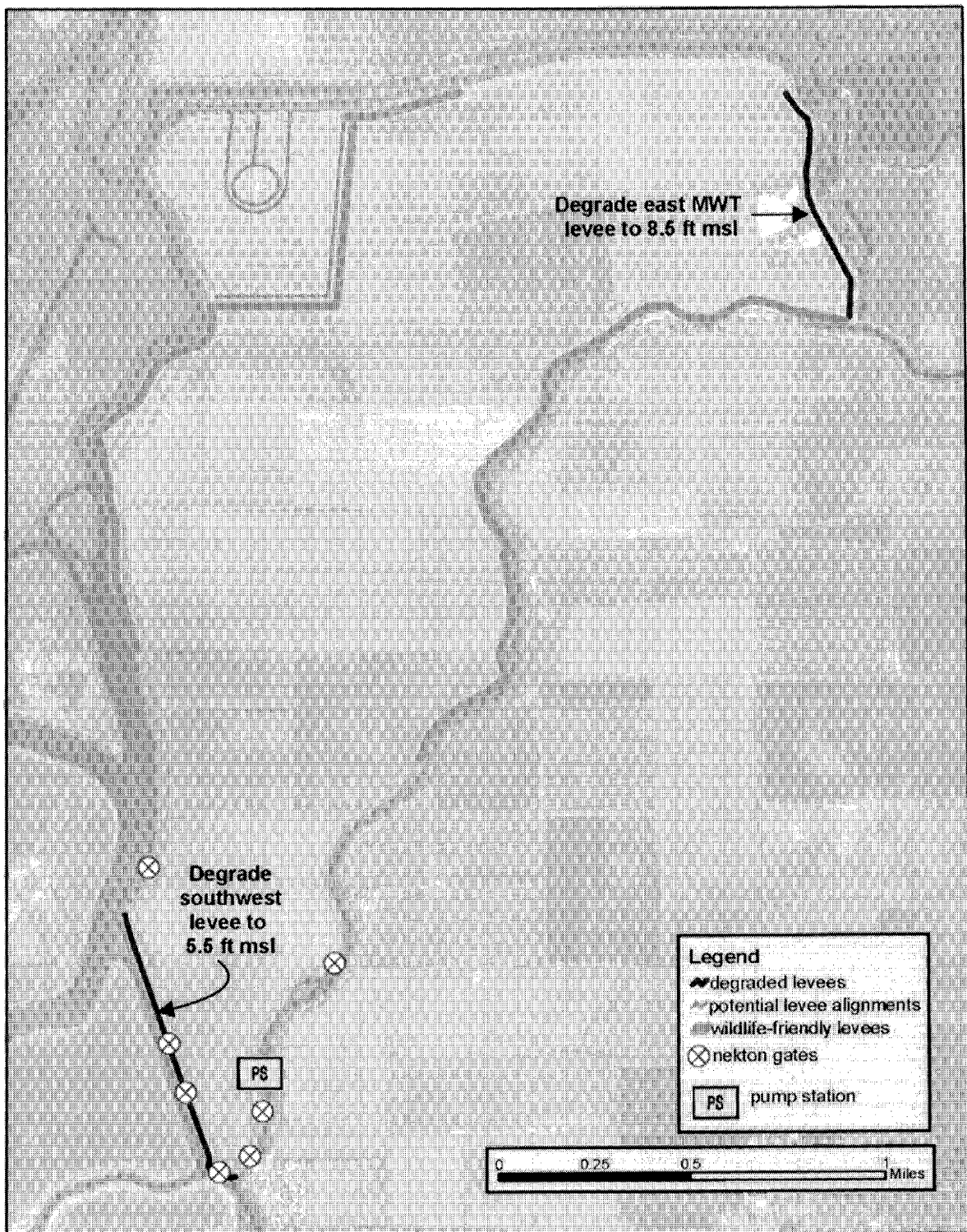
Alternative 1-A

Alternative 1-B: Seasonal Floodplain Optimization

This alternative facilitates controlled flow-through of McCormack-Williamson Tract during high stage combined with actions to maximize floodplain habitat to benefit fish species that spawn or rear on the floodplain. This would be accomplished by allowing controlled flooding (with some tidal action to maintain water quality) during the wet season. Alternative 1-B is shown conceptually on Page 8 and includes the following components:

- Degrade McCormack-Williamson Tract East Levee to Function as a Weir
- Degrade McCormack-Williamson Tract Southwest Levee to Function as a Weir
- Reinforce Dead Horse Island East Levee
- Modify Downstream Levees to Accommodate Increased Flows
- Construct Transmission Tower Protective Levee and Access Road
- Enhance Interior Levee Slope Habitat
- Construct Box Culvert Drains and Self-Regulating Tide Gates
- Restore Agricultural Land to Habitat
- Retrofit Existing Agricultural Siphon
- Retrofit Existing Agricultural Pump Station

A more detailed description of this alternative will be presented in the North Delta Flood Control and Ecosystem Restoration Project EIR.



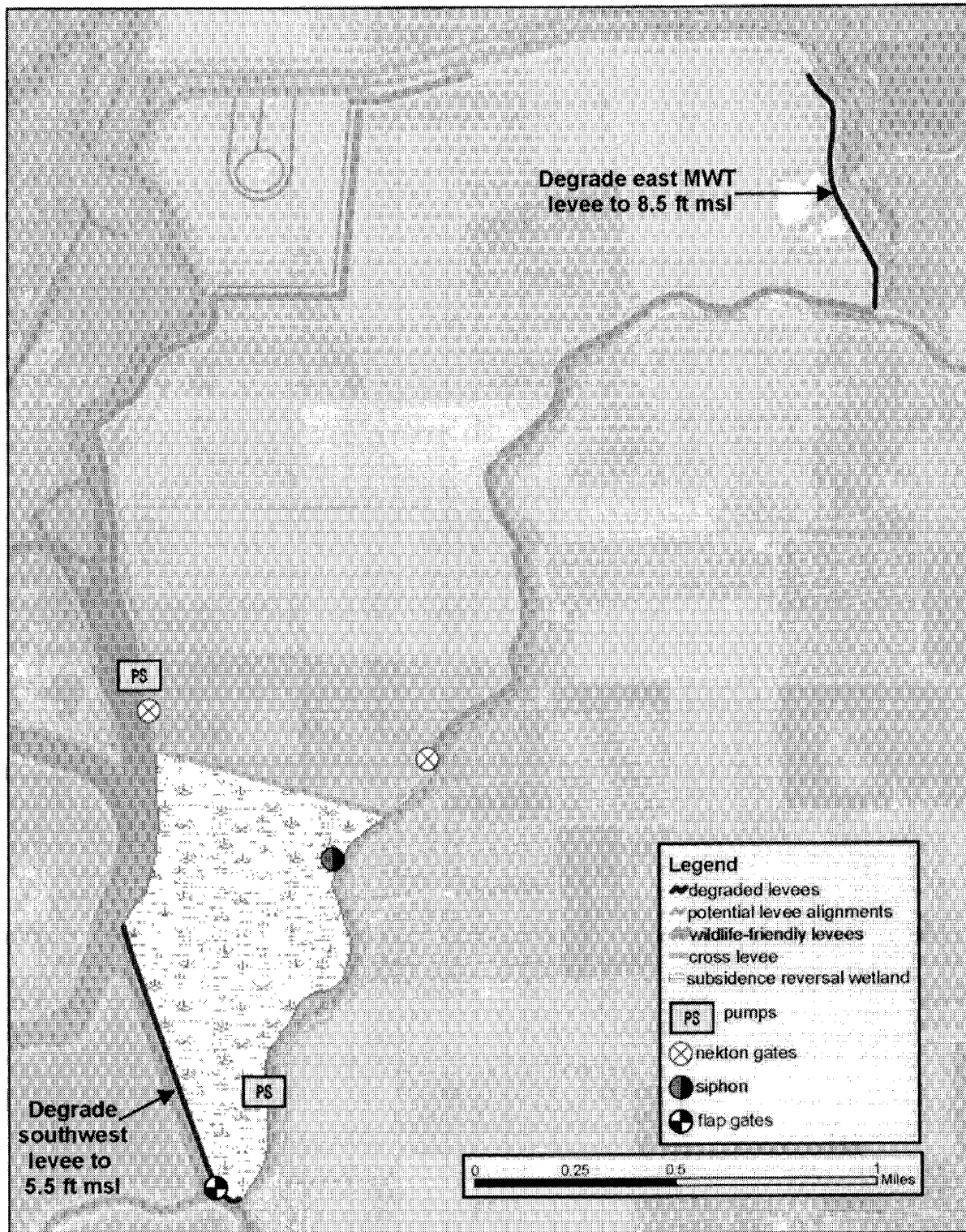
Alternative 1-B

Alternative 1-C: Seasonal Floodplain Enhancement and Subsidence Reversal

This alternative facilitates controlled flow-through of McCormack-Williamson Tract during high stage combined with scientific pilot actions to create floodplain habitat (similar to but less than Alternative 1-B), combined with a subsidence reversal demonstration project in the lowest area of the tract. This would be accomplished by allowing controlled flooding (with some tidal action to maintain water quality) during the wet season as well as sediment import. Alternative 1-C is shown conceptually on Page 10 includes the following components:

- Degrade McCormack-Williamson Tract East Levee to Function as a Weir
- Degrade McCormack-Williamson Tract Southwest Levee to Function as a Weir
- Reinforce Dead Horse Island East Levee
- Construct Cross-Levee to Create Subsidence-Reversal Demonstration Project Area
- Modify Downstream Levees to Accommodate Increased Flows
- Construct Transmission Tower Protective Levee and Access Road
- Enhance Interior Levee Slope Habitat
- Construct Box Culvert Drains and Self-Regulating Tide Gates
- Restore Agricultural Land to Habitat
- Retrofit Existing Agricultural Siphon
- Retrofit Existing Agricultural Pump Station
- Import Soil for Subsidence Reversal

A more detailed description of this alternative will be presented in the North Delta Flood Control and Ecosystem Restoration Project EIR.



Alternative 1-C

Statement of Willingness and Ability to Cost Share:

DWR and TNC are willing to entertain cost-sharing and partnering with USACE for project design and implementation, depending on the ultimate terms of any necessary agreements and the project budget. Any potential cost-share would likely come from in-kind services and LERDS. DWR and TNC are working with other CALFED Agencies to secure a long-term owner for the property who will assume O & M responsibilities.

Point of Contact and Agency Affiliation:

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The Nature Conservancy
Cosumnes River Preserve
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(916) 683-1767
kwhitener@TNC.ORG

Scoping and Screening Information:

Because McCormack-Williamson Tract levees are constrained in height by legal agreement and normally flood in high water events, it is only a matter of time before the Tract floods again. If the Tract floods again before improvements have been made that meter the "surge" effect while creating quality habitat, damage to area property will occur and a unique opportunity for creating critical habitat will be lost; the cost of reclaiming the Tract may be prohibitive and the conditions created by uncontrolled flooding will not be conducive to quality habitat.

The project is well-supported by area landowners who have been affected by the catastrophic nature of flooding on McCormack-Williamson for years. McCormack-Williamson Tract Flood Control and Ecosystem Restoration improvements include the Group 1 actions that will be presented and analyzed in the broader North Delta Flood Control and Ecosystem EIR. These Group 1 actions will provide near-term incremental flood control and ecosystem restoration benefits to the North Delta area.

Full documentation of the project screening process, including alternatives considered and set aside, will be presented within and in a detailed Appendix to the North Delta Flood Control and Ecosystem Restoration Project EIR. The EIR will also fully disclose the potential impacts of the alternatives and detail any necessary mitigation measures.